

Claims

1. Composition comprising "n" conjugates C1 to Cn, each conjugate being composed (i) of a polysaccharide derived from a *Streptococcus pneumoniae* serotype/serogroup S1 to Sn respectively, and (ii) of a carrier protein P1 to Pn respectively; "n" being a number equal to or greater than 2; in which composition the polysaccharides S1 to Sn are identical or different and in which the carrier proteins P1 to Pn are selected independently from a group consisting of "m" carrier proteins A1 to Am, "m" being a number equal to or greater than 2, provided that at least one of the carrier proteins P1 to Pn is different from the others.
2. Composition according to Claim 1, in which the conjugates C1 to Cn are all different from each other either by their polysaccharide or by their carrier protein or by their polysaccharide and their carrier protein.
3. Composition according to Claim 2, in which the polysaccharides S1 to Sn are all different from each other.
4. Composition according to Claim 1, 2 or 3, in which "n" is a number equal to or greater than 6.
5. Composition according to Claim 4, in which "n" is a number equal to or greater than 10.
6. Composition according to one of Claims 1 to 5, in which the carrier proteins P1 to Pn are independently selected from a group consisting of two carrier proteins A1 and A2.
7. Composition according to Claim 6, in which when "n" is an even number, "n"/2 carrier proteins P1 to Pn are A1 and "n"/2 carrier proteins P1 to Pn are A2 or when "n" is an odd number, ("n"+1)/2 carrier proteins P1 to Pn are A1 and ("n"-1)/2 carrier proteins P1 to Pn are A2.
8. Composition according to one of Claims 1 to 7, in which at least one of the carrier proteins P1 to Pn

Sub B1

Sub A1

Sub B2

Sub A2

Sub B3

Sub A3

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Sub-A3

is the diphtheria toxoid (Dt) and at least one of the carrier proteins P1 to Pn is the tetanus toxoid (Tt).

Sub-B4

9. Composition according to Claim 8, in which the carrier proteins P1 to Pn are selected from the group consisting of Dt and Tt.

Sub-A4

10. Composition according to Claim 8 or 9, in which the quantity of Dt is less than or equal to 200 µg/dose.

11. Composition according to Claim 8, 9 or 10, in which the quantity of Tt is less than or equal to 50 µg/dose.

12. Composition according to Claim 1, which comprises 10 or 11 valencies represented by 10 or 11 conjugates in which the polysaccharides are all different from each other and are derived from the serotypes chosen from serotypes 1, 3, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F of *S. pneumoniae*.

13. Composition according to Claim 12, which comprises 10 or 11 conjugates selected from:

- serotype 1 polysaccharide coupled to Tt or to Dt;
- serotype 3 polysaccharide coupled to Dt;
- serotype 4 polysaccharide coupled to Tt;
- serotype 5 polysaccharide coupled to Tt or to Dt;
- serotype 6B polysaccharide coupled to Dt;
- serotype 7F polysaccharide coupled to Tt or to Dt;
- serotype 9V polysaccharide coupled to Tt;
- serotype 14 polysaccharide coupled to Dt;
- serotype 18C polysaccharide coupled to Dt;
- serotype 19F polysaccharide coupled to Tt; and
- serotype 23F polysaccharide coupled to Tt.

14. Composition according to Claim 1, which comprises 10 or 11 valencies represented by 12 to 22, especially 12 to 15 conjugates, in which the polysaccharides are derived from the serotypes chosen from serotypes 1, 3, 4, 5, 6B, 7F, 9V, 14, 18C, 19F and 23F; in which composition conjugates of the same valency differ from each other in the carrier protein.

15. Composition according to Claim 14, which comprises:

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- 5     - serotype 1 polysaccharide coupled to Tt;  
- serotype 3 polysaccharide coupled to Dt;  
- serotype 4 polysaccharide coupled to Tt;  
- serotype 5 polysaccharide coupled to Tt;  
- serotype 6B polysaccharide coupled to Dt;  
- serotype 6B polysaccharide coupled to Tt;  
- serotype 7F polysaccharide coupled to Tt;  
- serotype 9V polysaccharide coupled to Tt;  
- serotype 9V polysaccharide coupled to Dt;  
10   - serotype 14 polysaccharide coupled to Dt;  
- serotype 18C polysaccharide coupled to Dt;  
- serotype 18C polysaccharide coupled to Tt;  
- serotype 19F polysaccharide coupled to Tt;  
- serotype 23F polysaccharide coupled to Tt; and  
15   - serotype 23F polysaccharide coupled to Dt.

16.     Composition which comprises "n" conjugates C1 to Cn, each conjugate being composed (i) of a polysaccharide S1 to Sn respectively and (ii) of a carrier protein P1 to Pn respectively, "n" being a  
20   number equal to or greater than 2; in which composition the polysaccharides S1 to Sn are identical or different and in which the carrier proteins P1 to Pn are selected independently from a group consisting of diphtheria (Dt) and tetanus (Tt) toxoids, provided that at least  
25   one of the carrier proteins P1 to Pn is different from the others; and which is characterized in that the quantity of Dt and Tt is respectively less than or equal to 200 and 50 µg/dose.

17.     Composition according to Claim 16, in which the  
30   conjugates C1 to Cn are all different from each other either by their polysaccharide or by their carrier protein or by their polysaccharide and their carrier protein.

18.     Composition according to Claim 17, in which the  
35   polysaccharides S1 to Sn are all different from each other.

19.     Composition according to Claim 16, 17 or 18, in which "n" is a number equal to or greater than 6.

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20. Composition according to Claim 19, in which "n" is a number equal to or greater than 10.
21. Composition according to one of Claims 16 to 20, in which the polysaccharides S1 to Sn are of bacterial origin.
22. Composition according to Claim 21, in which the polysaccharides S1 to Sn are all derived from the same bacterial species.
23. Composition according to Claim 22, in which the polysaccharides S1 to Sn are all derived from the species, *Streptococcus pneumoniae*.